

**MEETING MINUTES**  
**Technical Working Group on Hazard Assessment**  
**US Environmental Protection Agency**  
**Federal Facilities Restoration and Reuse Office**  
**Crystal Gateway One**  
**Arlington, Virginia**  
**October 11 - 12, 2005**

**Attendees:**

Dwight Hempel, Bureau of Land Management  
Kevin Oates, EPA  
Doug Maddox, EPA  
Doug Murray, Navy Ordnance Safety and Security Activity  
Bill Veith, USACE, Huntsville  
Dick Wright, Mitretek  
Vic Weiszek, Department of Defense

Versar, Inc.

William Brawner  
Clem Rastatter  
Norrell Lantzer  
Laura Wrench  
Cynde Sears (consultant)

**Participated by Phone:**

Jennifer Roberts, State of Alaska  
Clarence Smith, Illinois EPA

**New Staff Support**

Clem Rastatter introduced Cynde Sears to the Working Group. Versar has brought Cynde on board to help complete revisions to the guidance document.

**Old Business**

**Acceptance of Minutes:** The workgroup accepted the minutes from the previous meeting. The minutes will be sent to FFRRO for posting on the public website.

**September Action Items Status:**

The action items from September were reviewed. Their status is recorded after each action item.

- Doug Maddox and Kevin Oates will review the FFRRO website and identify additional materials to be posted. **Status:** Kevin stated that most items he wants to see posted are on the website. However, some key briefings and prior meeting minutes are absent from the MEC HA website. He will let Versar know what he needs for posting.
- Vic Weiszek will continue to look for meetings that will bring together DoD and military branch representatives as possible venues to present the MEC HA. **Status:** Vic is putting together a panel for JSEM. He suggested Kevin participate. Carryover.
- Versar will create an updated schedule for the preparation and release of the guidance document and other tasks. **Status:** Completed.

- Kevin will look into addressing tribal issues, since Syed is no longer on the working group. NTEC is one option for identifying a representative for tribal issues. **Status:** Kevin continues to investigate this issue. Carryover.
- Clem Rastatter will ask Lenny Siegel for his opinion of the agenda for the stakeholder group. **Status:** Stakeholder meeting held. Completed.
- Laura Wrench and Kevin will put together a technical document that supports the MEC HA scoring and weighting and explains the sensitivity runs. This document will outline the methods that were used to develop the current scoring scheme. **Status:** In process. Carryover.
- Kevin will construct a simple crosswalk between the input factors, the output categories, and the CERCLA Nine Criteria. **Status:** Completed.
- Versar will send Bill Veith a list of Filler Type categories so he can draft the rationale behind the listings and relative hazard rankings for those categories. Bill will also ask Doug Murray to rank the categories as a second, independent reviewer. **Status:** Completed.
- Bill Veith will establish a separate default hazardous distance for WP and develop a justification for the default value. **Status:** Carryover.
- Bill Veith will work on scheduling an MEC HA session at the Huntsville Stand-down, to be held December 13-14. **Status:** Completed.

### **Update on Stakeholder Meeting**

Clem Rastatter summarized events from the stakeholder meeting in September. The feedback received from the meeting was encouraging on several different levels. Stakeholders were generally pleased with the efforts that DoD and EPA are making in this arena, and believe that this guidance document will assist the cleanup process. Clem described two recommendations raised by one of the Stakeholders that she promised to raise to the group. First, there was a recommendation by a member of the panel that there be no uniform scoring, but instead a “consumer report” approach to reporting the hazard of the site. Second, a member of the panel recommended that the group consider that munitions related input factor categories (e.g., filler type) be simplified by always assuming worst case (e.g., high explosive filler) due to uncertainties always present. While the comments made by this participant did appear to resonate with others in the group, the group concluded that they thought the current approach to scoring made a great deal of sense. There were no criticisms of the scoring or the general approach to the assigning of scores to output categories. There were specific recommendations for some potential wording changes to the output categories. These are incorporated in Attachment A, which was used to support a discussion of output categories by the TWG HA.

Specific recommendations from the Stakeholders meeting on input factors were addressed during the course of the detailed discussions on the draft Guidance. The summary of the Stakeholders meeting was distributed prior to this meeting and is attached to these minutes (Attachment B).

### **Guidance Review**

The working group reviewed the guidance document systematically, beginning with the glossary and working through each of seven of the eight chapters in turn. (The workgroup did not review Chapter 8 in detail. Several people expressed that this had a CERCLA orientation and should be left to EPA.)

### **Glossary:**

The workgroup recommended numerous changes, including the introduction of new terms, and additional technical and regulatory sources. The group asked that Versar search for more updated sources to some of the terms, as some of the references were quite old. Versar said that they had conducted a comprehensive search for glossary terms, and were unable to locate more recent references. They invited the TWG HA to provide them ideas of additional references, and Versar will ensure that they are incorporated.

**Action Item:** Versar will review the glossary and update any sources for which new information is available.

**Action Item:** Bill Veith will provide additional resources for the glossary.

The following notes outline comments from the workgroup on specific chapters of the MEC HA guidance. No attempt is made to capture every edit, but rather the text summarizes lengthy discussions.

### **Executive Summary:**

The group reviewed the current one page Executive Summary and concluded that the current version was too short. They thought it should be expanded by looking for highlights in the guidance document chapters to be included. Specific items that were mentioned included: a new paragraph describing the benefits of the MEC HA; text from chapter 2 on the role of scoring, and the fact that the score has no meaning outside of the relative hazard of the sites; and the relationship of the MEC HA evaluation to the CERCLA process. A recommendation was made that it might be useful to put a diagram into the executive summary cross-walking the CERCLA nine criteria process and the MEC HA. One person argued strongly that the Executive Summary could be quite a bit longer. It is the one piece that a lot of senior managers will read. Finally, it was recommended that the last paragraph of the Executive Summary should be removed. It references the FFRRO web site, and the material posted there that was used in development of the MEC HA. That information belongs in a cover memo, since the web site changes so frequently.

**Consensus Item:** The references to the FFRRO web site will be removed from the Executive Summary.

**Action Item:** Versar will ensure that the MEC HA web page is listed on all coversheets. It will not be listed in the Guidance document proper.

### **Chapter 1:**

Doug Murray indicated significant concern with the use of the word “treatment,” due to its regulatory implications.

Concerns were raised about the absence of explicit recognition of land use controls in Figure 1.1. The concern expressed is that the diagram shows “no action” in cases where institutional controls will be required. That is inconsistent with the policy decision that LUCs will almost always be required when MEC has been found. After some discussion about the nature of the required changes, it was agreed that Versar will circulate a revised figure.

**Consensus Item:** Delete the term “treatment” due to its regulatory implications. Use “removal or remedial action,” or “cleanup” as appropriate. This modification will apply to the entire document, including all of the tables.

**Action Item:** Bill Veith will talk with Michelle Crull about the proper hazard distance to use for WP.

**Action Item:** Clem Rastatter will distribute a revised Figure 1-1 to the MEC HA working group.

### **Chapter 2:**

Clem Rastatter distributed a paper with alternative approaches to descriptions of output categories. This paper included recommendations from the stakeholders meeting. Laura Wrench raised a concern that the output of the MEC HA is really focused on whatever use is associated with the particular scenario. Therefore, the descriptions of categories 3 and 4 are somewhat misleading. The group felt strongly that they wanted to keep the concepts of current and future use in the output categories, as this resonates with decisions that people have to make in the hazard management decision process for which the output categories will be used. The workgroup was unable to agree on changes to the output categories that they

felt would communicate better and tabled that issue for the time being. The draft Guidance will include the current description of output categories. The issue may be revisited if comments on the draft guidance warrant this.

### **Technical Appendix (Sensitivity Analysis):**

Laura Wrench presented a short PowerPoint® presentation that highlighted the myriad scoring possibilities that result from all combinations of categories of input factors. The presentation was intended to showcase the various scoring configurations and their distribution/frequency. She pointed out that 180,000 possible combinations of scoring options were present in the data base that was created. Several members of the advisory committee encouraged her to focus on the most reasonable scenarios, as it is neither possible (nor desirable) to address every possible scenario. The presentation is Attachment C.

### **Chapter 3:**

Several concerns were expressed about the discussion of the project team in the introduction to the planning part of the MEC HA process. Several workgroup members suggested that, due to the fact that a remedial investigation (RI) has already been completed, the “project team” had already been assembled during the RI stage. Others argued that many projects have not compiled a project team outside of the lead agency, and that often there is little interaction with regulators in a team environment. It was recommended that the discussion of the project team needs to be placed in the context of the on-going systematic planning process. In addition, workgroup members asked that technical disciplines be listed in the description of who must be on the project team.

There was considerable discussion about the paragraph on the involvement of other stakeholders in the MEC HA process. Concerns were expressed by one or two people that it was unnecessary to suggest that there should be involvement of RAB members or local government personnel in the conduct of the MEC HA. Others said that involvement of local government people is essential in FUDs sites, and that engagement of one or two RAB members may be useful at some sites. All agreed that community involvement activities is important to informing other stakeholders and supporting their understanding of site decisions – however, this discussion should be placed in the context of the CERCLA decision process. It was agreed to make changes to Table 3-2 to add local governments to the table of people potentially involved in the MEC HA. It was also agreed to leave the paragraph on stakeholder involvement alone, with a word used to describe stakeholders “affected” rather than interested parties.

Draft Table 3-3 described typical areas of uncertainty that may be of concern to the project team and stakeholders. The group expressed concern, that if they are going to highlight uncertainties, they should highlight how uncertainty might be resolved. Since the resolution of uncertainty is either making conservative assumptions, or doing additional investigations, and those issues are highlighted throughout the document, it was felt that this table should be deleted.

It was suggested that the reference to Archival Search Reports (ASRs) be broadened in an effort to include not only ASRs, but references to historical research. The Navy does not title their historical research documents “ASRs.”

**Consensus Item:** Replace the term “interested,” as in “interested parties,” with the term “affected.”

**Consensus Item:** Strike Table 3-3 from the text.

**Consensus Item:** Add local government to the list of stakeholders at FUDs sites.

#### Chapter 4:

Several group members felt that Figure 4-2, “Identification of Hazard Assessment Areas Within a Single MRA,” could be more clearly organized. An improved approach to the diagram was suggested that splits out the “before” and “after” division of the site into multiple MRSs. There was a discussion about whether the area to be assessed should be referred to as a Hazard Assessment (HA) area. The group concluded that the term MRS ought to remain to preserve consistency with the existing understanding of the site. One group member suggested that the subdivided MRS areas be labeled 1(a) and so forth to improve comprehension.

#### Chapter 5:

The group deliberated on explosive filler and the order of hazard of such fillers. A number of edits were made. The group acknowledged that they are currently dissatisfied with the approach to distance for White Phosphorous. Bill Veith agreed to discuss with Michelle Crull to her approach to estimating hazard distance to see if he could find something more satisfactory.

The group discussed the input factor Minimum Depth Relative to Maximum Intrusive Depth of Receptors. Laura Wrench explained that in last month’s discussion of this input factor, the three categories agreed upon do not take into account the potential that MEC can be located only in the subsurface. The group agreed to the addition of two more categories to take into account this potential. (See below, the last two categories were added.)

Category or Value	Score		
	No Cleanup	Surface MEC Cleanup	Subsurface MEC Cleanup
MEC located only on surface	240	25	
MEC located surface and subsurface, intrusive depth overlaps with subsurface MEC	240	150	95
MEC located surface and subsurface, intrusive depth does not overlap with subsurface MEC	240	50	25
MEC located only subsurface, intrusive depth overlaps with minimum MEC depth	150	NA	95
MEC located only subsurface, intrusive depth does not overlap with minimum MEC depth	50	NA	25

On a separate note, there was also a fair amount of discussion regarding the size parameters for small MEC. Concerns were expressed that the size used to delineate “small” was too small. This discussion ultimately led to a decision to increase the size so as to make it clear that the concern with small MEC is that they may be picked up. The new threshold size chosen for “small” was felt to make clear that large MEC items are so classified because they are not easy to move.

**Consensus Item:** The group agreed to add the two categories at the bottom of the table to account for subsurface MEC alone.

**Consensus Item:** The group agreed that the definition of “small” for MEC Size should be changed to 155mm or six inches in Table 5-9.

**Action Item:** Bill Veith will review the approach to establishing distance for White Phosphorous and will make a recommendation.

## **Chapter 6:**

Several members of the group stated that the lines in Figure 6-1, “Types of Information that Provide Data to the Input Factor Categories,” are confusing because several of the connecting lines are difficult to discern from one another. It was suggested that the diagram be modified such that the lines are more readily distinguishable. Kevin Oates asked that the instructions on tables such as Table 6-3 be deleted as they are intended for the workbook, and are unnecessary for this chapter. In addition, Kevin asked that the section on documentation be folded back into the rest of the information collection discussion, and that any tables be integrated in the workbooks and not be included in this chapter.

## **Chapter 7:**

It was suggested that the title of Chapter 7 be changed from “Input Factor Scoring” to “Input Factor Category Selection.” Doug Murray requested that the score for White Phosphorous be lowered relative to High Explosives. This score was lowered from 80 points to 70 points. It was requested that the information on what fuzing conditions constitute UXO Special Case and DMM Category 1 be incorporated in this chapter, as well as Chapter 5. It was suggested that the discussion of the fact that scores have no meaning outside of the relationship of output categories to each other be highlighted in the Executive Summary.

**Consensus Item:** The score for White Phosphorous will be lowered from 80 point to 70 points.

## **Chapter 8:**

**Consensus Item:** Clarify Table 8-2 to reinforce the fact that the MEC HA is not designed to assess ecological impacts. Table 8-2 will integrate new language that makes this fact more explicit.

## **Schedule**

Clem Rastatter handed out a proposed schedule based on the expectation that the document would be out for review by December 1, 2005. That schedule is provided as Attachment D. The TWG HA requested that they have another opportunity to revise the document. It was therefore agreed that the date for distribution of the document to the Federal and State agencies would be revised to January 2, 2006 to give the TWG HA one more opportunity to look over the document.

- ❑ October 31, 2005 – Technical Appendix Text to be submitted to K. Oates prior to October 31, 2005.
- ❑ November 14, 2005 – A 12:00 p.m. conference call to discuss the status of the Technical Appendix.
- ❑ December 1, 2005 – Scheduled date for MEC HA submission to TWG.
- ❑ December 13-14, 2005 – Scheduled date for the Huntsville, Alabama ACE Stand-down
- ❑ January 2, 2006 – The date for release of the draft final MEC HA for review by Federal agencies.
- ❑ Note: The Q/A section of the document will not be integrated into this compressed timeframe.

**Attachment A**  
**Output Category Options**

## Output Categories

### Current Guidance Approach:

- Category 1: Sites which have the highest potential for explosive incident under current use conditions
- Category 2: Sites which have the potential for explosive incident under current use conditions
- Category 3: Sites which are compatible with their current use, but which have a potential for an explosive incident under changed use conditions
- Category 4: Sites which are compatible with their current or future use.

### Approach from September Meeting:

- The first two categories are the same.
- Category 3: Sites which have a low potential for explosive incident under current use conditions
- Category 4: Sites which have a low potential for an explosive incident under current and reasonably anticipated and appropriate future use conditions.

### From Stakeholder Meeting

- Category 1: Sites with highest potential for an explosive incident
- Category 2: Sites with some potential for explosive incident
- Category 3: Sites with hazard that is acceptable [*word used was O.K.*] with current use
- Category 4: Sites that are or will be compatible with current or future use. [*Two different words proposed. Some did not like the word compatible and preferred consistent. Editor note: “consistent” is not correct by definition in that sentence, but the problem with compatible is that the use logically should be compatible with the site; site conditions could be compatible, since they are alterable.*]

### Alternative Proposal from Nicole Weymouth:

- Category 1 – High Explosive Potential/Current Use
- Category 2 – Some Explosive Potential/Current Use
- Category 3 – Low Explosive Potential/Current Use
- Category 4 – Low Explosive Potential/Current and Future Use



**Editor Suggestions** (similar to most of current alternatives, just worded more consistently, a little tighter) Also see notes on “compatible” and on the Alternative Proposal.

- Category 1: Sites with highest potential for explosive incident under current use
- Category 2: Sites with potential for explosive incident under current use
- Category 3: Sites with low potential for explosive incident under current use
- Category 4: Sites with low explosive potential—current and *future* use

A longer version just in case they decide they need action to clarify:

- Category 1: Sites with highest potential for explosive incident under current use/Immediate removal required
- Category 2: Sites with potential for explosive incident under current use/Give area use warnings
- Category 3: Sites with low potential under current use/Reassess if site use changes
- Category 4: Sites with low explosive potential/All current and future site uses compatible

**Explanation:**

- Category 1 sites present a very high risk for an explosive incident given current use conditions. An immediate removal action to reduce risk may be warranted. The potential for explosive incident may be so obvious that no MEC HA is required to come to this understanding.
- Category 2 sites also present a risk for explosive incident under current use conditions. However, for a variety of reasons, action is not as urgent. UXO may have been removed from the surface, but remains subsurface and at a depth where intrusive user activities could reach the UXO. Perhaps the area is a very large area (e.g. a range fan) where a very few items may be present, and there is a current use (e.g. hiking, cattle grazing) that could bring people into contact, but people have been hiking here for years without an encounter.
- Category 3 sites present a low risk of explosive incident under current use conditions. There is probably no UXO on the surface of the site. Current activities do not have an intrusive component that will bring users into contact with UXO. (Possibly cattle grazing, hiking). If UXO was previously present, it was probably removed from both the surface and subsurface. However, there is the potential that more intrusive activities could take place in the future that could bring people into contact with UXO.
- Category 4 sites present a very low risk under current or future use conditions. There is probably no surface UXO, and little (if any) subsurface UXO. There has been a cleanup action that has removed all surface and subsurface UXO to depths below any intrusive use activities and/or land use activities ; land use controls are in place to ensure that future uses don't change beyond those that have been accounted for in the removal.

**Attachment B**  
**Summary of Stakeholders Meeting**

## **MEC HA Stakeholders Meeting September 21, 2005**

### **Attendees:<sup>1</sup>**

Arlen Crabb, Aberdeen Proving Ground RAB, MD  
Chris Riggio, Aleutian Pribilof Island, AK, Adak Island RAB  
Deanna Spehn, Tierrasanta Community Council, CA  
Lenny Siegal, Center for Public Environmental Oversight  
Michael Houlemard, Fort Ord, CA

### **EPA**

Doug Maddox, EPA  
Kevin Oates, EPA

### **Versar, Inc.**

Clem Rastatter  
Laura Wrench  
William Brawner

### **Meeting Summary**

Following introductions, the meeting began with a presentation by Kevin Oates. Mr. Oates gave a Powerpoint presentation which concentrated on the basic technical framework and gave examples (Camp Sample) of how the MEC HA might be applied (see Attachment C for presentation). Mr. Oates also drew several comparisons with the EPA Human Health Risk Assessment process and enumerated ways in which the MEC HA is a different process. Once the presentation was complete, the stakeholders were invited to ask clarifying questions and present their reactions.

No consensus was taken or sought of the group. Instead the group was first invited to ask questions to clarify understanding, and then asked for specific comments on the proposed MEC HA Technical Framework (see Attachment A for agenda) Members of the group were provided questions for discussion in advance of the meeting (see Attachment B for questions). Following the presentations and associated questions and answers, each person was asked to present their views on input factors, scoring, output categories, and overall usefulness of the MEC HA. Each person was invited to give a brief feedback on the topic area, and then the entire group discussed the feedback and recommendations. The process was open and fluid with lots of opportunity for discussion. Ideas were recorded on flip charts to ensure that ideas and recommendations were correctly captured.

### **Overview**

- There was general acceptance of the various input factors. There was some confusion with regard to specific input factors, and specific changes in wording were recommended.

---

<sup>1</sup> A representative from Camp Butner was unable to attend due to a last minute conflict.

- For the most part participants said that they understood the scoring, that the weighting used resonated with them, and supported the scoring approach.
- All participants said that they understood and supported the output categories. Specific wording changes were recommended that some felt would make the categories more obviously apparent.
- Several fundamental issues were raised by one individual that related to the nature of the scoring process, as well as whether some of the munitions related input factors could be simplified. These issues are described in more detail below.

### **Input Factors**

All participating in the meeting seemed to understand and support the input factors. Specific areas of confusion and recommended wording changes are listed below.

- It was suggested that the input factor, “MEC Category / UXO Special Case” be revised in such a manner as to be clearer for non-technical stakeholders. Specific terms that were suggested were “unstable” and “more sensitive”.
- The “Potential Contact Hours,” input factor created a level of confusion among several members of the group. The group indicated that a simple rewording of the title might improve coherence.
- It was suggested that the potential contact hours category address “vulnerable” populations in a special manner. Vulnerable populations could include children and Native Americans.
- Specific examples were given of locations where Native Alaskans might congregate. It was suggested that some of these be provided as examples. (Examples given included: fish camps, subsistence areas such as picking wild foods, spiritual places/sacred spots, natural shelters, and hunting areas.)
- Other concerns were raised in respect to the accuracy of “Distance between Additional Potential Receptors and the Explosive Hazard.” The wording of this particular input factor seemed to cause some confusion. It was suggested that the rewording of this factor may alleviate confusion. Alternative wording, such as, “collateral damage” and “Additional Receptor Proximity to Hazard” were offered as recommendations.
- Concerns were expressed that the explosive hazard for firefighters entering an area with MEC during a firefighting event is not addressed in the MEC HA.
- The impact of grading on the Potential for Migration should be noted. This was discussed in the context of people picking up and moving MEC items that then later detonated at a different location.

One person suggested that the number of categories associated with input factors that relate to MEC is too complicated and should be drastically simplified to assume the worst case is always present. Several other members of the group indicated that this approach resonated with them. The stakeholder presenting this approach stated that there is so much uncertainty as to what is actually present at a site until all clearance actions are complete that “type of filler” should be treated as though it is a high explosive for all cases. In addition to uncertainty, the difference between high explosive and spotting charge is only one of degree of injury. Injury or death is possible with all of the fillers. This stakeholder proposed that the same is true for input factors such as amount of MEC. Furthermore, there is not much difference between a target area or a

range fan, and range fans might have additional targets within them. Several others said that they thought this approach had merit. Further discussion on the part of the EPA and technical staff brought out that a project team could choose to make a worst case assumption early in an investigation process (e.g., PA/SI stage) when it is not clear that all targets have been found, but that if the remedial investigation has been completed the expectation is that all potential targets have been located. (Note: there seemed to be some confusion over what is a target area. The party making this argument assumed that if it wasn't identified in the archive search report (ASR), it would not be considered a target. The definition used in the guidance assumes that a target is defined by use, and evidence of concentrated use, not solely by a document such as the ASR).

### **Scoring**

Members of the group generally supported the scoring that was used. They supported the discussion of weighting that was included in the summary package they were given, and felt that the scoring and weights generally made sense. A specific suggestion was to consider increasing the score given to potential migration factors.

One member of the group felt that the use of numeric scoring for a qualitative process was not the most transparent approach. Instead a process was recommended that was more in line with a Consumer Reports approach to assessing the hazard associated with a particular scenario. This would be completely qualitative and specific to each site. Using this approach, each project team could weigh the different input factors in a manner that they felt appropriate to site specific circumstances. An underlying issue appeared to be that consistency was not necessarily a desirable criterion for the MEC HA process. EPA staff explained that project teams would still have to evaluate the uncertainty associated with the data used in the scoring process, and could choose to make conservative assumptions if they felt the data was limited. EPA also explained that the MEC HA score or outcome is one input into the CERCLA 9 criteria process, and it is not the final answer. The selection of remedy process remains the CERCLA 9 criteria evaluation process and selection of remedial actions under a Record of Decision.

A specific recommendation was made by a group member concerning the method in which scoring is illustrated on the worksheets. It was suggested that reference points be used on the scoring sheets that display the maximum number for a particular input factor category. This method was widely accepted by the group as an improvement to the scoring system.

While supporting the overall scoring utilized, several members of the group felt that these arguments resonated with them.

### **Output Categories**

All members of the group indicated that they felt that the output categories reflected a reasonable approach to categorizing sites by their explosive hazard. While they generally felt they understood the categories, some word changes were suggested. Several people took exception with the word compatible, and preferred the word consistent. Another party made a specific suggestion as to how the output categories should be reworded. These specific suggestions are listed below:

- Category 1: changed to, “Sites which have the highest potential for an explosive incident.”
- Category 2: changed to, “Sites where some potential for an explosive incident could occur.”
- Category 3 and 4: amended such that the terms “compatible” and “current and future use” be addressed for clarity. One suggestion was to replace the term compatible with the term consistent.

### **Other General Issues**

Topics were wide ranging and sometimes addressed issues other than the specifics of the technical framework. Listed below are specific suggestions and concerns:

- The guidance needs to be clear in its definition of explosive incident.
- Concerns were expressed that CWM is not included. If it cannot be included, instructions should be provided as to what to do if CWM is encountered.
- The MEC HA should provide frequently asked questions information on why CWM and underwater ranges are not included.
- It was recommended that the MEC HA could be used during the five year review process, if site conditions have changed.
- A variety of communication recommendations were made:
  - The discussion of input categories and scoring should contain the total possible score for that input factor so that people doing the scoring do not have to always go back and forth between input factors and scoring sheets.
  - There should be two separate categories for FAQs, one for the public and one for regulators and implementers.
  - A fact sheet version of the document is needed.
  - The current “plain English” summary might be more effective if it were not in a question and answer format.
- Concerns were expressed by one party that stakeholders were being asked to review the framework late in the development process. This party was concerned that there would be little opportunity to make significant changes at this point.

### **General Usefulness**

Everyone agreed that the MEC HA would be very useful to project teams and could help project teams communicate with each other and with other stakeholders. They all felt it is an improvement over the current lack of process, and that it is a significant improvement over past attempts to develop a hazard assessment. The group recommended that a major focus be placed on the transparency of the process. They recommended that several different communication tools may be needed to address different audiences (see above).

**Attachment C**  
**Presentation on Technical Appendix (Sensitivity Analysis)**

# **Sensitivity Run**

MEC HA TWG Meeting  
11 October 2005

## **Purpose**

- Present technical paper outline
- Provide examples of tables



## Technical Paper

- Four Sections
  - Background
  - Description of Sensitivity Run Combinations
  - Summary of Tables
  - Tables

## Background

- Primary points:
  - MEC HA structured to capture collective values of the TWG
  - Present scoring and output performance objectives and criteria
  - Briefly describe sensitivity run process

## Sensitivity Run Combinations

- Only want to use combinations that make sense, e.g.:
  - UXO, Special case and UXO in Target Areas (no DMM)
  - No surface MEC for Burial Pits

## Sensitivity Run Combinations

- Over 100,000 possible combinations:
- Untreated, for example:
  - 288 Use combinations times
  - 96 MEC Amt/UXO combinations plus
  - 180 MEC Amt/DMM combinations
  - **79,488 permutations**

## Summary of Tables

- Present summaries expected to be of interest to audience, e.g.:
  - What kind of untreated sites end up in output category 4?
  - What output categories contain untreated sites with UXO, special case?
  - What output categories contain untreated sites with limited or very limited accessibility?

## Examples from Spreadsheets

Charts, Dick, not  
numbers

## **Scoring Issue: Output Category Revisions**

- Changes at last meeting were not neutral in effect
- Examples:
  - Minimum score is now 125 (up from 115)
  - Target Area, Surface Cleared, Intrusive depth does not overlap, now in Category 2 instead of category 3
- Output Category Max/Mins will change

**Attachment D**  
**Schedule for Completion of Guidance**

ID	Task Name	Duration	Start	Finish	4th Quarter				1st Quarter			2nd Quarter	
					Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
1	<b>Draft Guidance Document</b>	<b>44 days?</b>	<b>Mon 10/3/05</b>	<b>Thu 12/1/05</b>									
2	<b>Body of Guidance Document</b>	<b>37 days?</b>	<b>Mon 10/3/05</b>	<b>Tue 11/22/05</b>									
3	Second Draft to TWG HA	0 days	Mon 10/3/05	Mon 10/3/05			10/3						
4	Comments From TWG HA received	1 day?	Fri 10/14/05	Fri 10/14/05									
5	Revised chapters 1-4 to KJO	0 days	Fri 10/21/05	Fri 10/21/05			10/21						
6	Chapters 1-4 from KJO	6 days	Fri 10/21/05	Fri 10/28/05									
7	Chapters 1-4 revised to editor	2 days	Mon 10/31/05	Tue 11/1/05									
8	Chapters 5-8 to KJO	6 days	Fri 10/21/05	Fri 10/28/05									
9	Chapters 5-8 from KJO	5 days	Mon 10/31/05	Fri 11/4/05									
10	Chapters 5-8 revised to editor	2 days	Mon 11/7/05	Tue 11/8/05									
11	Chapters 1-4 from editor for revision	5 days	Wed 11/2/05	Tue 11/8/05									
12	ES Chapters 1-4 reviewed and typed	5 days	Wed 11/9/05	Tue 11/15/05									
13	Chapters 5-8 from editor for revision	5 days	Wed 11/9/05	Tue 11/15/05									
14	Chapters 5-8 reviewed and typed	5 days	Wed 11/16/05	Tue 11/22/05									
15	<b>Technical Appendix</b>	<b>25 days</b>	<b>Wed 10/19/05</b>	<b>Tue 11/22/05</b>									
16	Draft Text to KJO	0 days	Mon 10/31/05	Mon 10/31/05			10/31						
17	Draft list of analytical tables to KJO	0 days	Mon 10/31/05	Mon 10/31/05			10/31						
18	Changes to draft text from KJO	0 days	Mon 11/7/05	Mon 11/7/05			11/7						
19	Analytical tables for review, along with summary points	15 days	Wed 10/19/05	Tue 11/8/05									
20	Revised draft technical appendix with tables to KJO and TWG HA	5 days	Wed 11/9/05	Tue 11/15/05									
21	Optional Conference Call Comments from TWG HA and KJO	0 days	Tue 11/15/05	Tue 11/15/05									
22	Revisions incorporated	5 days	Wed 11/16/05	Tue 11/22/05									
23	<b>Model Report Appendix</b>	<b>9 days</b>	<b>Fri 11/11/05</b>	<b>Wed 11/23/05</b>									
24	Draft to KJO to review	0 days	Fri 11/11/05	Fri 11/11/05			11/11						
25	KJO Review	5 days	Fri 11/11/05	Thu 11/17/05									
26	Revised draft based on KJO edits	2 days	Fri 11/18/05	Mon 11/21/05									
27	Final minor reviews, edits	2 days	Tue 11/22/05	Wed 11/23/05									
28	<b>Qs and As Appendix</b>	<b>22 days</b>	<b>Thu 10/6/05</b>	<b>Fri 11/4/05</b>									
29	Draft to KJO for review	0 days	Thu 10/6/05	Thu 10/6/05			10/6						
30	Revisions from KJO sent to TWG HA	9 days	Thu 10/6/05	Tue 10/18/05									
31	Comments from TWG HA (Optional Conference Call)	10 days	Wed 10/19/05	Tue 11/1/05									
32	Revised Q and A to KJO for approval	3 days	Wed 11/2/05	Fri 11/4/05									

Project: Revised Schedule for MEC H/  
Date: Mon 10/10/05

Task



Milestone



External Tasks



Split



Summary



External Milestone



Progress



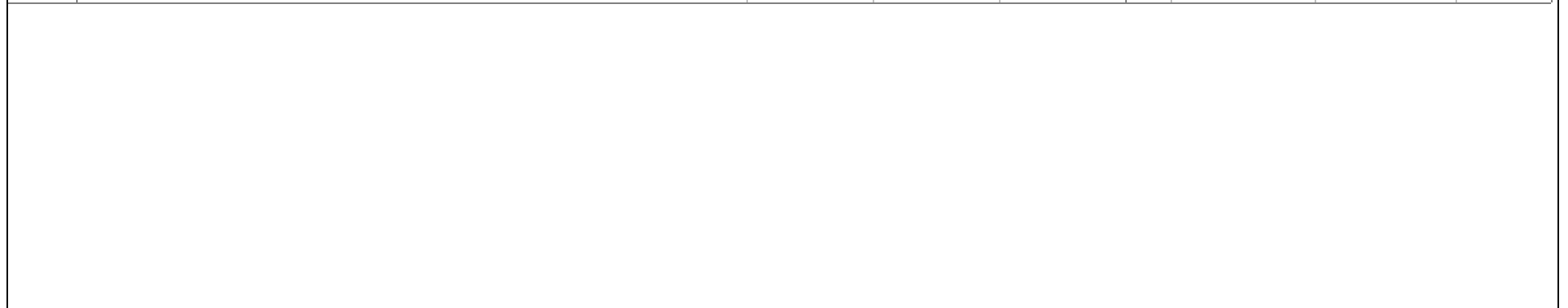
Project Summary



Deadline



ID	Task Name	Duration	Start	Finish	Sep	4th Quarter				1st Quarter			2nd Quarter	
						Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
33	Compilation and Production of Document	7 days	Wed 11/23/05	Thu 12/1/05										
34	Document to KJO and TWG-HA	0 days	Thu 12/1/05	Thu 12/1/05					12/1					
35	<b>Revised Guidance Document</b>	<b>60 days</b>	<b>Wed 2/1/06</b>	<b>Tue 4/25/06</b>										
36	Comments received	0 days	Wed 2/1/06	Wed 2/1/06										
37	Significant Comments compiled/organized by Versar sent to TWG	5 days	Wed 2/1/06	Tue 2/7/06										
38	Meeting or conference call of TWG to resolve significant comments	10 days	Wed 2/8/06	Tue 2/21/06										
39	Revised document based on TWG HA direction	15 days	Wed 2/22/06	Tue 3/14/06										
40	Chapters sent to KJO for review (chapters sent as finished)	5 days	Wed 3/15/06	Tue 3/21/06										
41	Revisions based on KJO edits	5 days	Wed 3/22/06	Tue 3/28/06										
42	Compilation/ Production	5 days	Wed 3/29/06	Tue 4/4/06										
43	Chapters to TWG HA for review (and concurrently to editor??)	0 days	Tue 4/4/06	Tue 4/4/06										
44	TWG HA review	10 days	Wed 4/5/06	Tue 4/18/06										
45	Meeting or conference call of TWG HA to revise/bless draft final for external	0 days	Tue 4/18/06	Tue 4/18/06										
46	Final Editorial review and Production	5 days	Wed 4/19/06	Tue 4/25/06										
47	Draft document for public review	0 days	Tue 4/25/06	Tue 4/25/06										
48	Response to comments documentation from Federal Agency review	60 days	Wed 2/1/06	Tue 4/25/06										
49	Workshops and Meetings	1 day?	Mon 10/10/05	Mon 10/10/05										
50														
51														
52														
53														
54		1 day?	Mon 10/10/05	Mon 10/10/05										



Project: Revised Schedule for MEC H/ Date: Mon 10/10/05	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	